

XVII.—On a Collection of Stag-Beetles (Fam. Lucanidae) from Sarawak. By

P. NAGEL, Hannover, Germany.

(With one Plate.)

The late Curator of the Sarawak Museum, Dr. E. Mjöberg, has been kind enough to send me a collection of stag-beetles, made by him during his recent expeditions to some unknown regions of North Sarawak. It contains besides many extremely rare species not less than nine unknown ones, which are found described below. Also some species collected by Dr. Mjöberg on Mt. Poi and Mt. Penrissen in South Sarawak are included here.

1.—HEXARTHRIUS Hope.

H. MANDIBULARIS Devr.

(Ann. Soc. Ent. Fr. (6) I, 1881, p. 237, t. 5, fig. 2.)

I have never seen a ♂ or a ♀ of this species and cannot state with certainty that the ♀ has been described. But the only specimen in question so completely agrees in colour and other parts with the description of the ♂ by Deyrolle that I have no doubt in saying that it is the ♀ of this beautiful species. The body is more slender than in *H. deyrollei*; the colour is a dark chestnut-brown, the underside, the elytra (except the darker suture) and the legs reddish-brown; the sides and the anterior half of the head are deeply and narrowly punctured; before the eyes a flat groove nearly smooth and shining; ocular canthus broad and as well as the mandibles distinctly punctured; the prothorax is broader than the head, the disc shining, but finely punctured, the waved sides and the anterior and posterior margin with the exception of the middle parts strongly punctured; the anterior angles of prothorax are rounded, the posterior excavated and close to the

excavation there is a small but distinct thorn; the scutellum with some few punctures; the elytra are shining, in the middle densely but very finely punctured; the base, the sides, and the tips more strongly punctured; the humeral angles rounded. Each elytron shows a distinct stria in form of a slit which begins laterally of the shoulder and ends near the tip. Outwards of this stria and in the posterior half of elytra there is one short and inwards two longer hardly visible cortae. The mentum is very rugous; the metasternum and the chancelled epipleura deeply punctured; the front tibiae have 4-5, the middle and hind tibiae 1 large tooth.

Long. Corp. 38 mm. latit. prothorax 15 mm.; elytra 16 mm.
1 ♀ from Mt. Penrissen, 3600 feet (E. Mjöberg leg).

2.—NEOLUCANUS Thom.

N. BORNEENSIS Houlbert var. *niger* nov. var?

♀. Niger; in omnibus partibus cum *N. borneensis* consentiens, Long. corp. 30 mm; lat. max. 12.5 mm.

♂ ignotus.

Habitat: Mons Murud, Sarawak, Borneo.

NEOLUCANUS BORNEENSIS Houlbert.

Insecta, iv, 1914, p. 279.

Is of the same chestnut colour as *N. muntjæ* Gestr. (*Ann. Mus. Civ. Genova*, xvi, 1881, p. 314, fig. Leuthner; *Monogr.*, 1885, p. 422.) The above described female is completely conformable with *N. borneensis* but is black in all parts. It is possible that the coloration of *N. borneensis* varies from chestnut to black, but before this inconstancy of the colour has been proved by a long series of specimens, the new subspecies must be kept up.

The type in the Sarawak Museum.

3.—ODONTOLABIS Hope.

O. GAZELLA Fabr.

Man. Ins., i, 1887, p. 18; *Ent. Syst.*, i, 1792, p. 238; *Syst. El.*, ii, 1801, p. 250, Herbst, *Käfer* iii, 1790, p. 313; Thunberg. *Mem. Soc. Ent. Mosc.*, i, 1806, p. 162; Leuthner, *Monogr.*, 1885, p. 463, t. 96, fig. 10, 11, ♂ and ♀; t. 91, f. 6 ♀; Möllenkamp, *Insektenbörse*, xxi, 1904, p. 347 (forma telod.); = *bicolor* Oliv., *Entom.*, i, 1, 1789, p. 22, t. 5, f. 20.; *Burm. Handb.*, v, 1847, p. 330; Thoms., *Ann. Soc., Ent. Fr.* (4), ii, 1862, p. 395; Parry, *Trans. Ent. Soc. London* (3), ii, 1864, p. 77.

2 ♀ from Mt. Poi, 4000 feet, and Mt. Penrissen, 3600 feet.

O. LEUTHNERI Boil.

Naturaliste, xix, 1897, p. 247, f.; Möllenkamp, Insekterborse, xxi, 1904, p. 341 ♂ (forma telod.); v. Rothenburg, Gubener Ent. Zeitsch., 1900, p. 92, ♀; Möllenkamp, Insekterb., xxii, 1905, p. 1-2, ♀.

1 ♀ from the Kalabit country, 3000 feet.

The female of this species is very similar to that of *O. lowei*, as already pointed out by v. Rothenburg and Möllenkamp. But both of them seem to have overlooked the following two differences: The prosternal process of *O. lowei* is large and vaulted and the tip directed downwards and backwards; the outer margin of the elytra in the first third is not broadly turned horizontally. In *O. leuthneri* (♀) the posternal process is narrow in form as a keel, the tip truncated and not directed backwards. The anterior margin is broadly turned horizontally. v. Rothenburg says in his diagnosis of the female that the elytra are *moderately* shining. In the above-mentioned specimen the elytra are very lustrous and therefore it may be possible that it is the female of the variety described below.

4.—*O. LEUTHNERI* VAR. *BRUNNEUS*, v. n.

FORMA TELODONTA.

Niger: capite magno, fornicato, margine antico laeviter arcuato, postice valde angustato, ante oculos angulis laeviter rotundatis, post oculos valde rotundatis, circum et post oculos sparsim et fortiter punctato; labro producto, laeviter rotundato; mandibulis elongatis, falciformibus, capitis prothoracisque longitudine per paulo brevioribus, opacis, furcatis, ad basim intus gibba minuta, ante furcam intus 7-8 serratis, supra laeviter, at subtus fortiter canaliculatis; genis valde punctatis, circum oculos macula triangularis levis ut in *O. leuthneri*. Mento ferrugineo-piloso. Prothorace granuloso, in disco stria leve, et utriusque striae hujus fovea parva instructo, secunda fovea in angulo postico, antice laeviter angustato, postice bisinnato, angulis posticis valde excavatis. Elytris rufo-piceis, parum nitidis, in primo triente laterioribus, secundum suturam striato-punctatis; epipleuris rufo maculatis. Femoribus piceis, tibiis pedibusque nigris; tibiis anticis laeviter arcuatis, denticulo minuto instructis, 4 posticis inermibus ac aureo-pilosis.

Long. (mand. excl.) 47.5 mm., mand. 16 mm. Latit. max. elytr. 22.5 mm. Hab. Mons. Murud, Saravak, Borneo septentrionalis.

This variation differs from *O. leuthneri* by the dark chestnut coloration of the elytra and the denticulation of the mandibles in the forma telodonta. The suture is accompanied by a row of fine but distinct punctures; other rows may be seen only with the glass; the outer parts of the elytra are somewhat granulated at the shoulders. The scutellum is deeply punctured. The semi-circular mandibles show at the inner margin near the base a little thickening as the rest of a very little

tooth. The inner margin is serrated with 7-8 little teeth from the middle to the forked tip and has no large tooth somewhat below the middle, as Möllenkamp describes from the telodont form of *O. leuthneri*. It may be, that the form in question of the mandibles represents the true telodont form, and that the form with the median tooth, described by Möllenkamp, is only an intermediate connecting link between the real forma telodonta and the forma mesodonta, as we can observe it in *O. alces* Fabr. The other signs are as in *O. leuthneri* Boil.

1 ♂ from Mt. Murud, 6500 feet. The type in the Sarawak Museum's collection.

O. LOWEI Parry.

Trans. Ent. Soc. London, 1873, p. 336, t. 5, f. 1; Leuthner, Monogr. Odont., 1885, p. 470, t. 95, f. 9; v.d. Poll, Notes Leyd. Mus., xii, 1890, p. 159 (forma priod.); Albers, Deutsche Ent. Zeitschr., 1894, p. 165; Zang, ibidem, 1905, p. 214 (forma mesod.); Griffini, Atti della Soc. Ital. Sc. Nat., xlv, 1906, p. 111-139; (*rufonotatus* v. Rothenburg, Gubener Ent. Zeitschr., 1900, p. 93, teste; Albers, Deutsche Ent. Zeitschr., 1894, p. 166).

1 ♂ of the forma telodonta from Mt. Murud, 6500 feet.

O. STRIATUS Deyr.

Ann. Soc. Ent. Fr. (4), iv, 1864, p. 313; Westw. Trans. Ent. Soc. London, 1874, p. 360, t. 3, fig. 4; Leuthner, Monogr. Odont., 1885, p. 477, t. 97, figs. 2, 3.

1 ♂ from Gunong Gadin, Lundu, Sarawak.

This male is the largest, I have ever seen. Total length 51 mm., mand. 15 mm.; breadth of prothorax 18 mm. The form of the mandibles agrees exactly with figure 2 in Leuthner's Monograph of the Odontolabini (t. 97, Trans. Ent. Soc. London, xi, 1885, p. 385-491, t. 84-97).

O. WATERSTRADTI v. Rothenburg.

Gubener Ent. Zeitschr., 1900, p. 84, 1 ♂ forma priodonta; long. corp. (mand. excl.) 54 mm., mand. 10 mm., latit elytrorum 13.5 mm.

From Mt. Murud, 6500 feet.

5.—PROSOPOCOELUS Hope.

P. OCCIPITALIS Hope.

Cat. Lucan. Col. 1845, p. 13 ♂ and ♀. Westw. Cab. of Orient. Entomol 1848, p. 22, t. 10, f. 4 ♂. (=astericus Thoms., Ann. Soc. Ent. Fr. (4) ii, 1862, p. 417. Waterhouse, Ann. Mag. Nat. Hist. (6) v, 1890, p. 35); Kriesche, Archiv. f. Naturg. (8) 1920, p. 120.

1 ♂ from Mt. Poi, 4000 feet.

This specimen belongs to the priodont form; it is distinguished from the Sumatran form by the larger black spot in the middle of the prothorax. The species is often named *Metopodontus* (vide Coleopterorum Catalogus Junk-Schenkling pars 8, G. van Roon, Lucanidae); that is incorrect, for with its deeply excavated front it is a typical *Prosopocoelus*. (Conf. Kriesche, Archiv. f. Naturg. (8) 1920, p. 120.)

6.—CYCLOMMATUS Parry.

C. CANALICULATUS Rits.

Notes Leyd. Mus., xiii, 1891, p. 235; l.c. xv, 1893, t. 2, f. 3 ♂.

1 ♂ of large development (47 mm.) from Mt. Murud.

2 ♀ from Kalabit country and Lio Matu.

From Mt. Murud Dr. Mjöberg has brought also the pupa of a male of the priodont form; this pupa shows distinctly the deep groove along the middle of the prothorax.

C. canaliculatus was described from Nias, but in his note xxii, Mr. Ritsema enumerates it as inhabiting also the island of Borneo. (Notes Leyd. Mus., xvii, 1895, p. 141.)

C. LUNIFER Boil.

Naturaliste 1905, p. 71, f.; l. c. 1905, p. 286.

2 ♂, 32 and 42 mm. with full developed mandibles, and 1 ♀, from Mt. Murud, 6500 feet.

The two male specimens have the labrum somewhat broader than those from Sumatra in my own collection; the species was originally described from Sumatra.

C. MAGNIFICUS sp. n.

Cyclommati montanelli Möllenk. subsimilis, aequaliter coloratus.

(a) *Forma telodonta*: Caput, prothorax et mandibulae brunneo-metallicae, partim preo-nitentes, subtus viridi-metallicus.

Capite supra triangulariter depresso, margine antico non deflexo, granuloso, lateribus valde rugosis, labro rotundato et margine antico piloso. Mandibulis porrectis, leviter arcuatis et deflexis, granulosis apice nigris nitidisque, prothorace elytrisque longioribus, ad basin dente magno triangulo, supra medium subtus dente gracile, ad apicem 10-12 denticulatis. Prothorace transverso, opaco, in disco nitidiore et tenue punctato, lateribus infra in medio angulatis ac postorsum convergentibus. Scutello metallico, ad basin punctato. Elytris opacetestaceis, in disco nitidis, lateribus in primo triente punctatis secundum suturam striato-punctatis, suturâ marginibusque externis metallicis.

Pedibus metallicis; tibiis inermibus, sed subtus et intus dense aureopilosis; pedibus nigris ac subtus aureo-pilosis.

Long. corp. (mand. excl.) 35-40 mm., mandib. 23-30 mm; latit. max. elytra 13-15 mm.

(b) *Forma amphiodonta*: Mandibulis capite prothoraceque paulo longioribus, ad basim pluridentatis (3--5), in medio inermibus, apice 8--10 dentatis; cetera ut in forma telodonta.

Long. corp. (mand. excl.) 30 mm., mand. 15 mm.

(c) *Forma priodonta*: Mandibulis serratis, mandibula sinistra paulo longiora; cetera ut in forma telodonta.

Long. corp. (Mand. excl.) 23--30 mm., mand. 6--10 mm.

♀: Elytrorum color ut in mare; prothorax et caput nigrobrunneo-metallicum, valde punctatum; labro punctatissimo. Mandibulis supra et infra denticulo instructis, punctatis, supra canaliculatis. Prothoracis lateribus fortiter punctatis. Elytris punctatis; Pedibus nigris ac ut latus inferior corporis metallico-nitentibus.

Long. corp. 23--28 mm.; latit. 9--11 mm.

Habit. Sarawak, Borneo septentrionalis.

This species is closely allied to *Cyclommatus montanellus* Möllenk. (Insektenbörse, xxi, 1904, p. 372) and differs from it by the denticulation of the mandibles; The colour of the prothorax, of the head, of the mandibles, the underside, the legs and of the scutellum is a metallic copper-brown with greenish reflexes on the sides similar as in Boisdu. (Voy. Astrolabe. Col. 1832, p. 236, t. 6, fig. 20.) The elytra are yellowish with a somewhat metallic hue and the sutura and the sides narrowly copper-brown margined; this narrow dark margin becomes 2--3 mm. broad in the first third of the elytra near the shoulders. This characteristic colouring of the sides may be easily overlooked for it can only be seen by considering them. The mandibles in the telodont form are longer than the prothorax and the elytra together, and lightly curved inwards and downwards, very finely punctured, black at the tip and here shining. At the base they have a strong triangular tooth directed inwards (*montanellus* has at the base a little bilobed tooth followed by a row of smaller teeth as in *C. tarandus* Thunb.). Somewhat below the middle they are armed with a thin tooth of 2--3 mm. in length, which arises on the underside and is directed inwards and downwards. The tip of the mandibles has a row of 10--12 small teeth, the first of them somewhat larger so that the tip is very similar to that of *C. metallifer*, *montanellus* and *tarandus*. The head is triangularly flattened and not deeply excavated as in *C. canaliculatus* Rits. at the front margin, which declines gradually to the labrum. The latter is porrected, declivous and rounded at the tip and bordered with golden hairs at the front margin. The prothorax is twice waved at the sides, with a small tooth somewhat below the middle; from the anterior edge to this tooth

the outer margin is horizontal, then it rises to the shoulders. The sides of the prothorax are strongly granulated, the disc more shining and finely but distinctly punctured. Also the sides of the head are strongly granulated. The tibiae have no teeth but they are closely covered with golden hairs as also the soles of the feet.

The underside is dark coppery-brown with a coppery-reddish hue. The prosternal process is narrow and conically projecting.

The median form has the mandibles a little longer than the head and the prothorax; at the base they have 3-5 little teeth, the middle is smooth and the tip is armed with a row of 8-10 little teeth. The smallest form of the male has the mandibles serrated; head and prothorax are more strongly punctured than in the forma maxima. In the small forms the left mandible is a little longer than the right one.

The female is coloured just as the the male, but the head, the prothorax and the elytra are more punctured. The mandibles are strongly developed and armed on the upper and underside with a tooth: from this tooth the upperside is canaliculated to the tip. The colour of the females seems to be inconstant: only a single female showed the clear colour, after having been taken out of the alcohol. The two others had the elytra coloured as the other parts of the body with metallic-green hues at the sides, one of these dark females shows yet distinctly the clearer colour in some parts of the elytra and particularly the characteristic metallic margins. Eight weeks after having been taken out of the alcohol the clear-coloured female had become very much darker, and is quite similar to the two dark females.

The types of the three forms of the male and that of the female are in the Sarawak Museum collection; three cotypes of the male and one of the female in my own collection.

7 ♂, 3 ♀ from Mt. Murud, 6500 feet.

C. TARANDUS.

Thunb.—Men. Mosc., i, 1806, p. 190, t. 12. f. 1; Burm. Handb., v, 1847, p. 374; Thomas, Ann. Soc. Ent. Fr. (4), ii, 1862, p. 421; Gestro, Ann. Mus. Civ. Genova. xvi, 1881, p. 309; Rits, Notes Leyd. Mus., 1902, p. 6, nota; Zang, Deutsche Ent. Zeitschr. 1906, p. 94; =metallifer, Hope (Westw.) Cat. Luc., 1845, p. 5; =rangifer Schönh. Syn. Ins., i, 3, 1806, p. 322; Westw. Cab. Or. Ent., 1848, p. 21, t. 10, f. 2; Rits, Notes Leyd. Mus., xiv, 1892, p. 6, nota; Zang, Deutsche Ent. Zeitschr., 1906, p. 94.

4 ♂, 55-63 mm.

7.—EURYTRACHELUS Thomson.

E. MJÖBERGI sp. n.

E. alcidis Vollenh. et *E. eurycephali* Burm. affinis.

Niger. Capite rectangula to tenue granuloso, laeviter fornicato, in disco duobus foveis parvis instructo, margine antico ad labrum nec perco duobus foveis parvis instructo, margine antico ad labrum nec perpendiculariter truncato. Labro bipartito, similiter ut in *E. titano*, at partibus longioribus, in medio valde semicirculariter excavato, angulis externis labri carina semicirculari conjunctis. Mandibulis capite fere duplo longioribus, tenue granulosis, dente basali magno armatis, furcatis et ante furcam dente minuto instructis; subtus ab basi striato-pilosis. Mento granuloso punctatoque et margine antico piloso. Reliquae partes ignotae; long., cap. 15 mm.; mand. 22 mm.; lat. cap. 28.5 mm.

♀ ignota.

Habit. Mons Murud, Sarawak, Borneo septentrionalis.

This species belongs to the second section as stated by Jakowleff (Hor. Sec. Ent. Ross. xxx, 1896, p. 457), which has the underside of the mandibles provided with a stripe of golden pubescence from the base to the middle or farther to the tip. It is allied to *E. alcides* Vollenh. (Tijdschr. Ent. viii, 1865, p. 150, t. 10, f. 2 ♂, 3 ♀) and *eurycephalus* Burm. (Handb. v, 1847, p. 387). Dr. Mjöberg, after whom I have much pleasure in naming this species, has obtained only the head, but this is sufficient to recognize that it belongs to a Lucanid hitherto unknown. Black, head and mandibles finely granulated; head rectangular and somewhat vaulted, on each side of the middle of the disc with a little groove. Mandibles nearly twice as long as the head, in two thirds of their length straight the last third curved inwards. Near the base a strongly developed triangular tooth, the tip forked and immediately before the fork armed with another smaller tooth. Mentum granulated and provided with very distinct punctures; its anterior margin with golden pubescence.

Type in the Sarawak Museum collection.

E. PROSTI Boil.

Ann. Soc. Ent. Belg., xlv, 1901, p. 15, t. 1, f. 4. Möllenk. Insektenb., xxi, 1904, p. 375.

1 ♂ and 1 ♀ from Mt. Poi, 4000 feet.

2 ♀ from Mt. Murud, 6500 feet, and Mt. Dulit, 3500 feet.

The male specimen is of smaller size, 37 mm. in length; towards the tip of the mandibles the median tooth has a continuation in form of a little edge. The females have a length of 23-27 mm.

8.—*DORCUS* McLeay.*D. PARRYI* Thomson.

Ann. Soc. Ent. Fr. (4), ii, 1862, p. 425 ♂.

1 ♂ from the Kalabit country.

This specimen is of smallest development (33.5 mm.).

9.—*GNAPHALOBVX* Bruin.*G. OPACUS* Burm.

Handb., v, 1847, p. 397; Albers, Deutsche Ent. Zeitschr., 1889, p. 236; Oberth. Houlb. Insecta, 1914, p. 158.

4 ♂ from Songei Tutau, Kalabit country and Mt. Poi; 1 ♀ from Mt. Poi, 4000 feet.

The male specimens are represented in all degrees of development from 20 to 35 mm.; all specimens, males and females, agree completely with those from Nias, Sumatra, and other Malayan islands.

G. PALLIDUS sp. n.

♂: Cano-brunneo tomentosus. Capite transverso, setis brevibus brunneis singulisque tecto, margine antico paulo excavato, angulis anticis valde rotundatis, angulis posticis obtuse productis. Labro brevi ac lato, angulis pilosis. Mandibulis capite perpaulo longioribus, ad basim tomentosus, latisque, margine interiore nigro, dentibus tribus (dens basalis valde productus), supra fere in media dente magno erecto instructis, apicibus acutis, nigris, leviter incurvatis. Mento punctato et excavato. Prothorace transverso, capite latiore, angulis anticis rotundatis, lateribus arcuatis, ante basim spinosis, post spinam lunatis et valde angustatis, in disco foveis duabus instructo, setis singulis tecto. Scutello minutissimo. Elytris prothorace capiteque angustioribus, ellipsi formibus et valde fornicatis, 5 striis setosis et ad basim 2 gibbis nigris nitentibus instructis. Tibiis setosis, anticis 2-3, intermediis posticisque unidentatis.

Long. corp. (mand. excl.) 10 mm.; mand. 2.5 mm.; latit. prothor. 5.5 mm.

Hab. Mons Poi, Sarawak, Borneo.

♀ ignota.

This new and very interesting species is brownish-grey; the upper surface is covered all over although not densely, with brown short bristles. The head is rectangular, the anterior edges rounded, the anterior margin somewhat excavated. The labrum is short but broad. Before the eyes exists a rounded tooth and the posterior edges are also not acute.

The ocular canthus is narrow. The mandibles are similar to those of *G. tricuspis* Rits.

The tip is acute and slightly curved inwards. About the middle of the mandibles their upper surface shows a well-developed tooth directed upwards. At first the mandibles are sinuated downwards, then horizontally directed. The inner margin and the tip are black. The prothorax is broader than the head, the sides waved and forming an acute tip near the base; behind this tip the prothorax is strongly narrowed; on the disc we may observe two grooves and some vaultings. The elytra, narrower than head and prothorax, have the sutures raised and each has 4 longitudinal (the sutural incl:=5) slightly elevated costae, which are, like the sutures, thickly clothed with brown erect scales. These costae are not so well developed as in *G. tricuspis*. Near the tip the elytra are situated 2 black shining tubercles. The legs are slender and squamose, the anterior tibiae are armed with 2-3 teeth, the posterior with 1 tooth.

The type in the Sarawak Museum collection.

1 ♂ from Mt. Poi, 4000 feet.

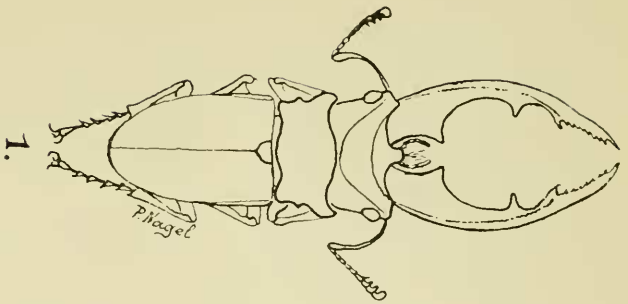
G. TRICUSPIS Rits.

Notes Leyd. Mus., iv, 1882, p. 163; Midden Sumatra, Suppl., 1892, p. 4; Notes Leyd. Mus., xv, 1893, t. 2, f. 5; Möllenk. Intern. Ent. Zeitschr., iii, 1909, Nr. 11, p. 58 ♀.

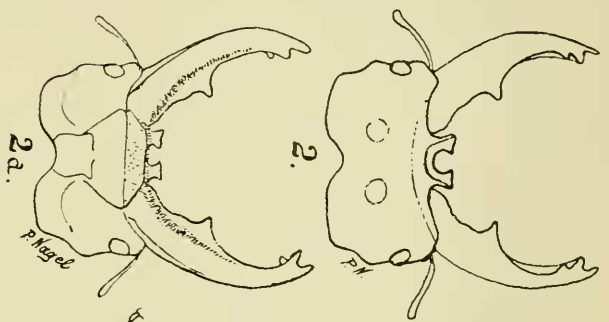
1 ♂, 1 ♀, from Mt. Dulit, 3500 feet.

Explanation of Plate 12.

- Fig. 1. 1a *Cyclommatus magnificus* ♂ sp. n.
 ,, 2. 2a *Eurytrachelus njöbergi* ♂ sp. n.
 ,, 3. *Odontolabis leuthneri* var. *brunnea* ♂ var. nova.
 ,, 4. *Xenostomus krieschei* ♀ sp. n.
 ,, 5. *Gnaphaloryx borneensis* ♀ sp. n.
 ,, 6. *Gnaphaloryx pallidus* ♂ sp. n.
 ,, 7. *Aegus sexlineatus* ♂ sp. n.
 ,, 8. *Aegus falcicornis* ♂ sp. n.
 ,, 9. *Aegus punctatissimus* ♂ sp. n.

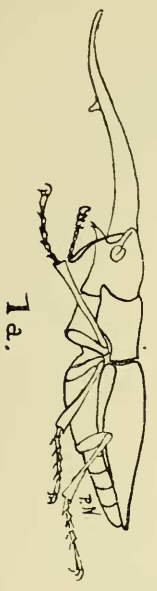


1.

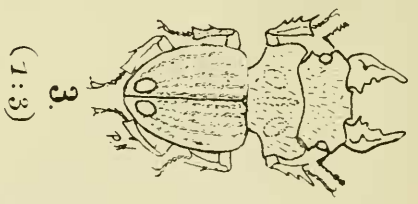


2.

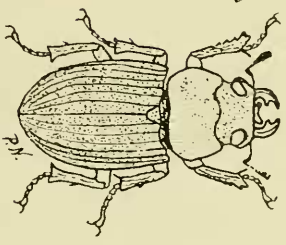
2a.



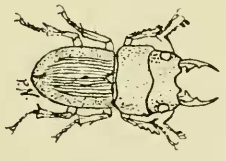
1a.



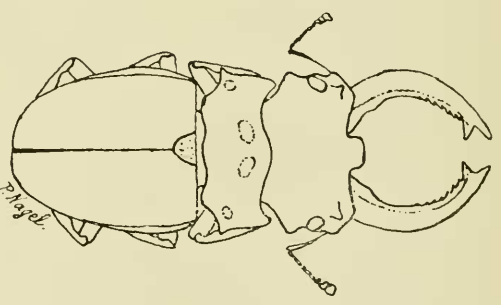
3.
(1:3)



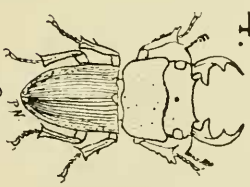
6
(1:2)



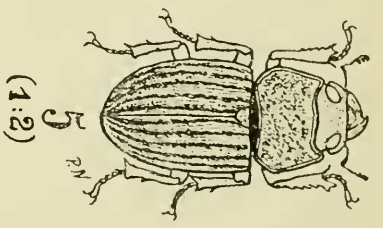
7



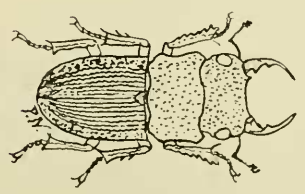
4.



8
(1:2)



5
(1:2)



9
(1:2)